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EXAMINER

DEAN, RAYMOND S

ART UNIT PAPER NUMBER

2684

DATE MAILED: 12/19/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/823,905

Applicant(s)

MILLER ET AL.

Examiner

Raymond S Dean

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 - 12 and 22 - 25 is/are allowed.
- 6) ☒ Claim(s) 1 - 7 and 13 - 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the auto detect circuit in the booster unit 34 of Figure 2 does not have a reference number. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: There is an incorrect reference to the pull up circuit in section 0015. The applicant has the pull up circuit in Figure 1 referenced as 30 but the applicant makes a reference to said pull up circuit as 32 which is the auto detect circuit. There is also a misspelling of the word "bit" in section 0031. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 - 7 and 13 - 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, the applicant states "an RF signal booster unit, wherein the booster unit is connectable to the RF signal booster unit with a connector adapted to transmit RF signals". This language renders the claim indefinite because the applicant is stating that the RF signal booster unit is connected to the same said RF signal booster unit with a connector. Claims 2 – 7 are dependent on Claim 1 therefore the examiner gives the same reason as set forth above.

Regarding Claim 13, the applicant states "an RF signal booster unit, wherein the booster unit is connectable to the RF signal booster unit with a connector adapted to transmit RF signals". This language renders the claim indefinite because the applicant is stating that the RF signal booster unit is connected to the same said RF signal booster unit with a connector. Claims 14 – 18 are dependent on Claim 13 therefore the examiner gives the same reason as set forth above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13, 14, 15, 17, and 19 - 21 are rejected as being unpatentable over Barber (US 6,230,031 B1) in view of Dutkiewicz et al. (5,890,057)

Regarding Claim 13, Barber teaches a system comprising: a wireless radio transceiver unit and a RF booster unit wherein the booster unit is connectable to the RF

signal booster unit with a connector adapted to transmit RF signals unit (Figure 1, Column 3 lines 51 – 67, Column 4 lines 1 – 6, the holder just relays the signals from the wireless radio transceiver that sits in the holder to the booster unit via RF coaxial cables, these cables could not be connected without connectors therefore inherent connectors are taught) wherein baseband signals transmitted to the connector by the wireless radio transceiver are used by the booster unit to prepare for transmission (Figure 4, Figure 5, Figure 6, Column 5 lines 15 – 18, Column 5 lines 30 – 46, Column 6 lines 5 – 55, the CPU in the wireless radio transceiver and the CPU in the booster module communicate via digital control messages, the CPUs communicate via signals that are in the digital information range which is the range where the digital information signal has not been mixed with a high frequency carrier such that it modulates said carrier, it well known in the art that this range is the baseband range).

Barber does not specifically teach a radio modem.

Dutkiewicz teaches a radio modem, comprising a modem module and a radio module that is coupled to a computer (Figure 1, Column 2 lines 62 – 67).

Barber teaches a modem that is housed in a wireless radio transceiver that is placed in a cradle or holder in a vehicle (Figure 3, Column 4 lines 30 – 44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the radio modem taught in Dutkiewicz in place of the modem of Barber to provide more flexibility such that a mobile user would be able to have wireless voice and data connectivity thus providing said user with the added capability of mobile computing

Regarding Claim 14, Barber in view of Dutkiewicz teaches all of the claimed limitations recited in Claim 13. Barber further teaches a connector line that is connected between the connector at the RF signal booster unit to a connector at the wireless radio transceiver unit (Figure 1, Column 3 lines 51 – 67, Column 4 lines 1 – 6, the holder just relays the signals from the wireless radio transceiver that sits in the holder to the booster unit via RF coaxial cables, these cables could not be connected without connectors therefore inherent connectors are taught).

Barber does not specifically teach a radio modem.

Dutkiewicz teaches a radio modem, comprising a modem module and a radio module that is coupled to a computer (Figure 1, Column 2 lines 62 – 67).

Barber teaches a modem that is housed in a wireless radio transceiver that is placed in a cradle or holder in a vehicle (Figure 3, Column 4 lines 30 – 44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the radio modem taught in Dutkiewicz in place of the modem of Barber to provide more flexibility such that a mobile user would be able to have wireless voice and data connectivity thus providing said user with the added capability of mobile computing.

Regarding Claim 15, Barber in view of Dutkiewicz teaches all of the claimed limitations recited in Claim 13. Barber further teaches baseband signals that are power control signals (Figure 4, Figure 5, Figure 6, Column 5 lines 15 – 18, Column 5 lines 30 – 46, Column 6 lines 5 – 55, the CPU in the wireless radio transceiver and the CPU in the booster module communicate via digital control messages, the CPUs communicate via signals that are in the digital information range which is the range where the digital

information signal has not been mixed with a high frequency carrier such that it modulates said carrier, it well known in the art that this range is the baseband range).

Regarding Claim 17, Barber in view of Dutkiewicz teaches all of the claimed limitations recited in Claim 13. Barber further teaches a RF signal booster unit that includes a switch in the transmit line that prevents RF energy from being provided to a power amplifier in the booster unit until a valid power controller message is received from the wireless radio transceiver (Figure 4, Figure 5, Figure 6, Figure 9, Figure 10, Column 5 lines 15 – 18, Column 5 lines 30 – 46, Column 6 lines 5 – 55, Column 10 lines 17 – 24, the diodes/switches are reversed biased such that the incoming signal is severely attenuated thereby causing the signal transmission portion of the amplifier circuit to shut down, the CPU in the wireless radio transceiver and the CPU in the booster module communicate via digital control messages, the CPU in the booster module will reverse bias the diodes such that a particular amplification circuit will shut down based on the mode of the wireless radio transceiver, said radio transceiver mode control message is transmitted by the wireless radio transceiver CPU to the booster module CPU such that the booster module is configured to produce the correct power level),

Barber does not specifically teach a radio modem.

Dutkiewicz teaches a radio modem, comprising a modem module and a radio module that is coupled to a computer (Figure 1, Column 2 lines 62 – 67).

Barber teaches a modem that is housed in a wireless radio transceiver that is placed in a cradle or holder in a vehicle (Figure 3, Column 4 lines 30 – 44). It would

have been obvious to one of ordinary skill in the art at the time the invention was made to use the radio modem taught in Dutkiewicz in place of the modem of Barber to provide more flexibility such that a mobile user would be able to have wireless voice and data connectivity thus providing said user with the added capability of mobile computing.

Regarding Claim 19, Barber teaches an RF signal booster unit adapted to amplify RF signals from a wireless radio transceiver (Abstract, Figure 1, Figure 4, Figure 5, Column 4 lines 66 – 67, Column 5 lines 1 – 10), the booster unit includes a switch that significantly attenuates the RF energy from the wireless radio transceiver that is provided to a power amplifier in the booster (Figure 9, Figure 10, Column 10 lines 17 – 24, the diodes/switches are reversed biased such that the incoming signal is severely attenuated thereby causing the signal transmission portion of the amplifier circuit to shut down), until a valid power control message is received from the wireless phone (Figure 4, Figure 5, Figure 6, Column 5 lines 15 – 18, Column 5 lines 30 – 46, Column 6 lines 5 – 55, the CPU in the wireless radio transceiver and the CPU in the booster module communicate via digital control messages, the CPU in the booster module will reverse bias the diodes such that a particular amplification circuit will shut down based on the mode of the wireless radio transceiver, said radio transceiver mode control message is transmitted by the wireless radio transceiver CPU to the booster module CPU such that the booster module is configured to produce the correct power level),

Barber does not specifically teach a radio modem.

Dutkiewicz teaches a radio modem, comprising a modem module and a radio module that is coupled to a computer (Figure 1, Column 2 lines 62 – 67).



Barber teaches a modem that is housed in a wireless radio transceiver that is placed in a cradle or holder in a vehicle (Figure 3, Column 4 lines 30 – 44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the radio modem taught in Dutkiewicz in place of the modem of Barber to provide more flexibility such that a mobile user would be able to have wireless voice and data connectivity thus providing said user with the added capability of mobile computing.

Regarding Claim 20, Barber in view of Dutkiewicz teaches all of the claimed limitations recited in Claim 19. Barber further teaches a RF signal booster that has a switch that includes a pair of diodes (Figure 9, Figure 10, Column 10 lines 17 – 24, the diodes/switches are reversed biased such that the incoming signal is severely attenuated thereby causing the signal transmission portion of the amplifier circuit to shut down).

Regarding Claim 21, Barber teaches all of the claimed limitations recited in Claim 20. Barber further teaches when current flows through the diodes the RF impedance of the diodes is reduced, turning the switch to closed and when the current does not flow through the diodes the RF impedance of the switch is high (Figure 9, Figure 10, Column 10 lines 17 – 24, the diodes/switches are reversed biased such that the incoming signal is severely attenuated thereby causing the signal transmission portion of the amplifier circuit to shut down, the signals can also be forward biased such that the incoming signal will not be attenuated thus causing the signal transmission portion of the amplifier circuit to be in the operate mode, reverse biasing the diodes causes an open circuit and

thus a high impedance, forward biasing the diodes causes a closed circuit and thus a low impedance).

***Allowable Subject Matter***

7. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action. Claims 2 – 7 are dependent on Claim 1 therefore the examiner gives the same reason as set forth above.

8. Claims 8 – 12 and 22 – 25 are allowed.

9. The following is a statement of the reasons for the indication of allowable subject matter.

Regarding Claim 8, Barber in view of Dutkiewicz teaches a radio modem unit comprising: a radio and a RF signal connector that is operably connected to the radio with said connector being connectable to a RF antenna or a booster unit. Barber in view of Dutkiewicz also teaches the method of detecting the presence of a booster unit. The prior art of record, however, fails to teach a radio modem unit that uses the method of detecting a DC offset at the connector to determine whether said connector is connected to a booster unit. Claims 9 – 12 are dependent on Claim 8 therefore the examiner gives the same reason as set forth above.

Regarding Claim 22, Barber in view of Dutkiewicz teaches a radio modem unit and an RF signal booster unit that are connectable using a connector comprising:

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detecting and determining the presence of a booster unit; if the booster unit is connected, transmitting baseband signals on the connector from the radio modem to the booster unit to allow the booster unit to prepare for transmission; and thereafter, transmitting an RF signal on the connector from the radio modem to the booster. The prior art of record, however, fails to teach a radio modem that uses the method of detecting a DC offset at the connector to determine whether a booster unit is connected. Claims 23 – 25 are dependent on Claim 22 therefore the examiner gives the same reason as set forth above.

### ***Conclusion***

10. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to

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the status of this application or proceeding should be directed to the Technology Center  
2600 Customer Service Office whose telephone number is (703) 306-0377.

*Marie Connor* *Robert Ill*